AUG 17 2000

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FOB Chron:Reading File/DS File/Subject File
chemical dechlorination, r&d approval, storage extension

Ms. Maya Rohr, Senior Project Manager
Kleinfelder, Inc.
5015 Shoreham Place
San Diego, California 92122

Mr. Donn Fukuda
Hawaiian Electric Company
Environmental Department
P.O. Box 2750
Honolulu, HI 96840

Dear Ms. Rohr and Mr. Fukuda:

The National Program Chemicals Division (NPCD) of the Office of Pollution Prevention and Toxics (OPPT) of the U.S. Environmental Protection Agency (EPA) grants a joint approval to perform PCB Disposal Research and Development (R&D), to Terada Environmental Laboratory, LTD. (Terada) and to the Hawaiian Electric Company (HECO). Terada is the owner and operator of the Terada mobile PCB dechlorination technology and HECO is the owner of the site of the R&D study operations. This R&D approval applies only to the mobile three kiloliter capacity batch process unit. Enclosed is the approval document for the R&D studies entitled "Approval to Conduct Research and Development Tests to Dispose of Polychlorinated Biphenyls (PCBs), Removal of PCBs at the Hawaiian Electric Company, Honolulu, Hawaii." NPCD approves the disposal of three kiloliters of PCB liquid material for each treatability study and thirty (30) kiloliters of PCB liquid material total under this approval. Effective dates are from August 18, 2000 through November 18, 2000.

NPCD completed its review of the document entitled "PCB Treatment Technology Report" received by EPA on July 22, 1999 and letter dated August 4, 2000 in consideration of the issuance of a PCB R&D Approval pursuant to 40 CFR 761.60(e) (Alternate Method) and the Toxic Substance Control Act (TSCA) to destroy PCBs in liquid materials using the Terada mobile PCB dechlorination technology.

CONCURRENCES

SYMBOL		7404						
SURNAME		Barr						
DATE		8/15/00						

Terada uses a proprietary reagent to treat PCB liquid material in a mixing reaction vessel. The reactor is enclosed and exhausted through a carbon adsorption system to capture volatile compounds. The process unit will treat three-liter batches of PCB contaminated liquid.

Terada intends to use liquid PCBs currently owned and stored for disposal by HECO to demonstrate the Terada PCB dechlorination technology to obtain a TSCA nationwide PCB Disposal Approval. To maintain availability of this PCB for the Terada demonstration, EPA extends the disposal deadline to December 31, 2001; or until the completion of the demonstration tests for the PCB Disposal Approval, whichever occurs first. HECO must initiate disposal procedures within 30 days after the completion of Terada's demonstration tests.

On completion of the studies, Terada and HECO must dispose of all materials resulting from these tests in EPA-approved facilities by the disposal deadline of December 31, 2001 or upon completion of a formal PCB disposal demonstration for EPA confirmation of PCB destruction effectiveness, whichever occurs first . Please direct matters concerning this subject to Hiroshi Dodohara of my staff on (202) 260-3959.

Sincerely,

/S/

John W. Melone, Director
National Program Chemicals Division

Enclosure

cc: Max Weinstraub
USEPA Region IX

Yosh Tokiwa
USEPA Region IX

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

APPROVAL TO CONDUCT RESEARCH AND DEVELOPMENT TESTS
TO DISPOSE OF POLYCHLORINATED BIPHENYLS (PCBS)
REMOVAL OF PCBs FROM LIQUID PCB MATERIAL
THREE KILOLITERS PCB DECHLORINATION TECHNOLOGY
LIMITED TO OPERATIONS AT THE HAWAIIAN ELECTRIC COMPANY FACILITY
HONOLULU, HAWAII

TERADA ENVIRONMENTAL LABORATORY, LTD.
〒901-1111 OHYAMA BLD.
292-2 AZA KANEGUSUSKU
HAEBARU-TOWN, SIMAJIRI GUN
OKINAWA, JAPAN

HAWAIIAN ELECTRIC COMPANY
HONOLULU, HAWAII

This approval is issued to Terada Environmental Laboratory, LTD. (Terada) of Okinawa, Japan to conduct research and development (R&D) tests on Terada's alternate method of PCB disposal. The purpose of this R&D activity is to remove PCBs in liquid material using a proprietary reagent, to levels less than 2 ppm PCBs. Other media containing PCBs may be treated by Terada only through EPA approval of a proposed major modification to this approval. The R&D studies are being conducted to remove PCBs from liquids contained in electrical and other equipment to verify the proficiency of the PCB disposal process.

Authority

This approval to conduct R&D into PCB disposal is issued pursuant to Section 6(e)(1) of the Toxic Substances Control Act of 1976 (TSCA), Public Law No. 94-469, and the Federal PCB Regulations, 40 CFR Part 761.60(e), (48 Federal Register, 13185, March 30, 1983).

Effective Dates

This R&D approval is effective from August 18, 2000 through November 18, 2000.

Proposed Test

Terada Environmental Laboratory, LTD. proposes to perform research and development to destroy PCBs in liquid PCB material. They will use the Terada chemical dechlorination process to destroy PCBs in liquid material. Terada plans to perform ten tests on soils ranging from as received, 534 ppm PCBs, to capacitor oil which may contain 100% PCBs. Terada intends to blend the high PCB-containing liquids using recycled material. Terada plans to vary ratios of reagent and liquid material to optimize operating conditions. Each test will last for about four hours.

At the conclusion of each test, the reactor contents will be placed in a clean container and stored for disposal. The company will collect samples of feed, product and side streams, before and after treatment, to transport to a third party laboratory for analysis.

On completion of the studies, Terada must dispose of the all materials resulting from the tests in EPA-approved facilities or stored for EPA confirmation of PCB content.

Definitions:

1. "Project" means all work performed by Terada under a specific contract for a treatability study.

2. "Run" means a single experiment.

3. "Study" or "treatability study" refers to work performed on a sample or a group of samples submitted for a specific remediation site or for a specific objective.

4. "A test" refers to all work performed on a single sample.

Conditions of Approval:

1. Advance Notification: A thirty-day advance notification of the tests must be provided to the appropriate EPA Regional Administrator and the State and local officials where the Terada PCB removal process will be tested. This notice must include the exact site and date using the treatment process along with an estimate of the length of study at the site. A copy of the notice shall be submitted to EPA Headquarters.

2. Other Permits and Approvals: No operation may commence until Terada has obtained all necessary approvals and/or permits from other Federal, State and local agencies. Terada is responsible for obtaining such approvals/permits where appropriate.

3. Feedstock Restrictions: The quantity of PCB liquid material for this approval will be limited to 30 liters total, 3 liters for each treatability study, with a maximum PCB concentration of 5,000 ppm PCBs. Reagents for this R&D approval will be restricted to that outlined in the July 1999

"PCB Treatment Technology Report." Prior to treatment in the Terada process, PCB feed must be sampled and analyzed according to EPA-approved procedures that are outlined in the following documents:

"Guidelines for PCB Destruction Permit Applications and Demonstration Test Plans", EPA Contract No. 68-02-3938, April 16, 1985;

"Quality Assurance and Quality Control Procedures for Demonstrating PCB Destruction in Filing for an EPA Disposal Permit;" USEPA, June 28, 1983 (Draft);

"Recommended Analytical Requirements for PCB Data Generated on-Site During Non-thermal PCB Destruction Tests" March 19, 1986; and

"Interim Guidelines and Specifications for Preparing Quality Assurance Plans", QAMS-005/80, Office of Research and Development, USEPA, December 29, 1980.

4. Process Restrictions. Terada shall establish a secondary containment system (berm or equivalent) in the processing area for management of liquid waste to ensure inadvertent releases of PCBs and PCB-related hazardous waste into the environment do not occur. Terada shall sample and analyze for PCBs all fluids accumulating in the process area containment system. The fluid must meet all other applicable Federal, State or local regulatory requirements specific for the project, prior to discharge.

5. Process Waste Restrictions: Terada shall analyze for PCBs, all wastes generated during the course of operations, including the following: filter media, carbon adsorption media, and sediment from reactor and treated material tanks. On completion of the studies, Terada and HECO must dispose of all materials resulting from these tests in EPA-approved facilities by the disposal deadline of December 31, 2001 or upon completion of a formal PCB disposal demonstration for EPA confirmation of PCB destruction effectiveness, whichever occurs first. EPA-approved analytical methods for PCBs in different phases (water, solids and oil) must be used by Terada in making such determinations.

If waste feedstock is reinforced/spiked by liquid material required by regulation to be incinerated, all process wastes must be managed in one of three ways: (1) incinerated, (2) disposed of by treatment equivalent to incineration, or (3) non-liquids may be disposed of in an EPA-approved TSCA landfill.

6. Storage of PCBs: Terada intends to use liquid PCBs currently owned and stored for disposal by HECO to demonstrate the Terada PCB dechlorination technology to obtain a TSCA nationwide PCB Disposal Approval. The PCB liquids currently on site include the following material: One 55 gallon drum (#27367) of transformer oil containing 534 ppm PCBs and two gallons of capacitor oil (Drum #57). EPA grants an extension, for these PCBs only, on the one-

year storage for disposal deadline to December 31, 2001; or until the completion of the demonstration tests for the PCB Disposal Approval, whichever occurs first. HECO must initiate disposal procedures within 30 days after the completion of Terada's demonstration tests. HECO and Terada may store PCBs and PCB Items at concentrations of 50 ppm or greater subject to the following conditions:

a. Storage in a Facility Complying with 40 CFR 761.65(b)(1): Pursuant to this approval, HECO and Terada may

(1) store, at any one time, PCBs and PCB Items in quantities up to 70 cubic feet for non-liquid material, 500 liquid gallons, or combined liquid and non-liquid PCBs up to ten 55-gallon drums and is not subject to the PCB Commercial Storage approval requirements at 40 CFR 761.65(d), or

(2) store PCBs and PCB Items in quantities greater than 70 cubic feet for non-liquid material, 500 liquid gallons, or combined liquid or non-liquid PCBs up to ten 55-gallon drums and is subject to the PCB Commercial Storage approval requirements at 40 CFR 761.65(d). These requirements include, in part, the submission of: a closure plan, a closure cost estimate, and financial assurance for closure.

b. Storage in Facilities which Comply with 40 CFR 761.65(b)(2): Pursuant to this demonstration approval, HECO and Terada may store PCB and PCB Items in a facility which is:

(1) permitted under EPA under Section 3004 RCRA or has achieved interim status under Section 3005 of RCRA,

(2) permitted by a State authorized under Section 3006 of RCRA,

(3) approved or regulated under a State PCB waste management program no less stringent than the requirements at found in this Part,

(4) subject to a TSCA Coordinated Approval pursuant to 40 CFR 761.77 which includes provisions for PCB storage, or

(5) permitted under a TSCA waste management approval pursuant to 40 CFR 761.61© and761.61(c).

c. Storage in an Area which Does not Comply with 40 CFR 761.65(b): Pursuant to this approval, HECO and Terada may temporarily store for not more than thirty days the following PCB Items in a facility which does comply with provisions under 40 CFR 761.65(b) provided that a notation is attached to the PCB Item or a PCB Container continuing the PCB Item indicating the date the item was removed from service or generated as a waste,

(1) Non-Leaking PCB Articles and PCB Equipment,

(2) Leaking PCB Articles and PCB Equipment provided the items are placed in a non-leaking PCB container that contains sufficient sorbent material to absorb remaining liquid PCBs in the item,

(3) PCB Containers containing non-liquid PCBs such as contaminated soil, rags and debris,

(4) PCB containing liquids PCBs at concentrations of $\geq$ 50 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with part 112 of this chapter and the liquid PCB waste is in Packaging authorized in the DOT Hazardous Material Regulations at 40 CFR Parts 171 through 180 or stationary bulk storage tanks (including rolling stock such as, but not limited to, tanker trucks, as specified by DOT.

d. Any PCB material not disposed of or meeting the destruction efficiency criteria under this approval shall be disposed of at EPA approved facilities. As an alternative, HECO and Terada may elect to dispose of any remaining PCB liquid following disposal procedures outlined in the pending PCB Disposal Demonstration Approval under the Interim Operations paragraph.

7. Transport of PCBs: Untreated PCB-containing water, solvent or solids may not be transported off-site by the Terada treatment unit except for proper disposal. PCB-contaminated equipment on the Terada PCB disposal units may be transported off-site in accordance with the U.S. Department of Transportation (DOT) requirements of Title 49, CFR Part 172. Such requirements include placarding the mobile facility and labeling all PCBs.

8. Process Malfunction: If the quality control testing as described in the R&D request reveals that the PCBs have not been adequately removed from the soil and/or water after repeated processing (not to exceed three times the theoretical process time or passes necessary for complete removal), disposal activities may be ordered to cease until an adequate explanation is given and corrective measures are taken. A written report detailing the problem and solution shall be filed with the EPA Region IX Office and the National Program Chemicals Division, Office of Pollution Prevention and Toxics, U.S. EPA, Washington, D.C. within five business days.

9. Process Monitoring/Recording: Provisions must be made to assure that the following process elements are suitably monitored and recorded for each batch processed, such that materials harmful to health or the environment are not inadvertently released:

a. quantity and concentration of PCBs and other raw materials processed during the disposal of PCB in contaminated material;

b. quantity and quality of treated fluid produced and treated;

c. quantity and quality of process waste generated (i.e., sludge, filter media, water, spent solvent or other effluents), including vent gases or other emissions;

d. PCB exposure in the working area;

e. temperature and pressure of the chemical dechlorination process at minimum in one-half hour intervals;

f. name of operator and supervisor.

This information and all pertinent test data shall be incorporated into a test report and submitted to EPA Headquarters no later than 60 days after the completion date of the testing.

10. R&D Test Report

All test results and related information on this R&D project shall be incorporated into a test report and submitted to NPCD for evaluation. The R&D Test Report shall include, at a minimum, the following items:

A. Certification letter. This letter, signed by an authorized official, must certify on behalf of the applicant that the tests were carried out in accordance with the approved application and the results of all determinations are submitted in the report. Any changes or deviations by the applicant from the application must be documented and submitted in writing to the Environmental Protection Agency (EPA).

B. Detailed discussion of all process operations, operational problems, if any, and corrective actions.

C. Chronology of significant events.

D. Quality assurance (QA) report. This shall address all the QA objectives, including whether or not precision and accuracy objectives were met, as well as results of quality control samples, performance audit samples and systems audits.

E. Waste handling. Applicant shall provide documentation (copies of manifest and certificates of destruction) to show all wastes generated during the R&D process test were properly disposed according to TSCA and Resource Conservation and Recovery Act (RCRA) regulations.

EPA will not make a decision to issue another approval on the Terada process based on changes resulting from this R&D until no less than 30 days following the receipt of this R&D Test Report.

11. PCB Releases: In the event Terada or an authorized facility operator of the Terada PCB dechlorination process believes, or has reason to believe that a release has or might have occurred, the facility operator must inform the Fibers and Organic Branch Chief (202-260-3933) and the EPA Region IX PCB Coordinator immediately.

A written report describing the incident must be submitted by the close of business on the next regular business day. No PCBs may be processed in that facility until the release problem has been corrected to the satisfaction of EPA Region.

12. Facility Inspection: EPA employees shall have access to the Terada process during the test runs for purposes of inspection, observation, or sampling. This access is subject to the normal safety requirements placed on Terada personnel or their agents.

13. Safety and Health: Terada or its agents must take all necessary precautionary measures to ensure that operation of the Terada process is in compliance with the applicable safety and health standards, as required by Federal, State and local regulations and ordinances. Any lost-time personal injury occurring as result of the Terada process must be reported to the EPA Region IX PCB Coordinator by the next regular business day.

14. Facility Security: The Terada process shall be secured (e.g., fence, alarm system, etc.) at the test site to restrict public access to the area.

15. PCB Spills: Any spills of PCBs or other fluids shall be promptly controlled and cleaned up as provided in the Terada Spill Prevention Plan. In addition, a written report describing the spill, operations involved, and cleanup actions must be submitted to EPA Region IX within five (5) business days.

16. Personnel Training: Terada is responsible for ensuring that personnel directly involved with the handling or disposal of PCB-contaminated material using the Terada process, are demonstrably familiar with the general requirements of this R&D approval. At a minimum this must include:

a. the type of material which may be treated during the testing of the Terada process and the upper limit of the PCB contamination which may be treated;

b. basic reporting and recordkeeping requirements under this R&D approval and the location of records at the test site;

c. notification requirements; and

d. waste disposal requirements for process and by-product wastes generated during the testing of the Terada PCB disposal process.

In this regard, Terada must maintain on-site during the testing of its soil treatment process a copy of this R&D approval; the Spill Prevention Control and Cleanup Plan; and sampling and analytical procedures used to determine PCB concentrations in untreated and treated materials.

17. PCB Regulations Compliance: Terada shall comply with all applicable requirements of the Federal PCB Regulations, 40 CFR Part 761, in the operation of the Terada process; particular note should be given to:

a. 40 CFR, section 761.65 - storage for disposal;

b. 40 CFR, section 761.79 - decontamination; and

c. 40 CFR, section 761.180 - records and monitoring.

18. Permit Variance: Any departure from the conditions of this research and development approval or the terms expressed in the application, demonstration plan, and R&D plan from

Terada must receive authorization from EPA. Verbal authorizations by EPA must be followed within ten working days by a written notification from Terada describing all modifications. In this context, "application, demonstration plan, and R&D plan" shall be defined as all data and materials which have been received by this Agency from the Terada regarding the Terada PCB disposal method.

Under the above conditions, and given the circumstances under which the research and development tests will be conducted, the National Program Chemicals Division finds, pursuant to 40 CFR 761.60(e), that these tests will not present an unreasonable risk of injury to health or the environment.

Approval:

Approval to conduct research and development into PCB disposal is hereby granted to Terada Environmental Laboratory, LTD of Okinawa, Japan subject to the conditions expressed herein, and consistent with the materials and data included in Terada's submission. This R&D approval is valid when conducted at the Hawaii Electric Company facility in Honolulu, Hawaii.

_____
Date

_____
John W. Melone, Director
National Program Chemicals Division

APPENDIX

BACKGROUND

Section 6(e)(1)(A) of the Toxic Substances Control Act (TSCA) requires that EPA promulgate rules for the disposal of polychlorinated biphenyls (PCBs). The rules implementing section 6(e)(1)(A) were published in the Federal Register of May 31, 1979 (44 FR 31514) and recodified in the Federal Register of May 6, 1982 (47 FR 19527). Those rules require, among other things, that various types of PCBs and PCB Articles be disposed of in EPA-approved landfills (40 CFR 761.75), incinerators (40 CFR 761.70), high efficiency boilers (40 CFR 761.60), or by alternative methods (40 CFR 761.60(e)) that demonstrate a level of performance equivalent to EPA-approved incinerators or high efficiency boilers. The May 31, 1979 Federal Register also designated Regional Administrators as the approval authority for PCB disposal facilities.

On March 30, 1983, EPA issued a procedural rule amendment to the PCB rule (48 FR 13185). This procedural rule change transferred the review and approval authority of mobile and other PCB disposal facilities that are used in more than one region to the Office of Prevention Pesticides and Toxics Substances (OPPTS). The purpose of the amendment is to eliminate duplication of effort in the regional offices and to unify the Agency's approach to PCB disposal. The amendment gives the Assistant Administrator authority to issue nationwide approvals (i.e., approvals which will be effective in all ten EPA regions) to mobile and other PCB disposal facilities that are used in more than one region.

Terada submitted a PCB Application July 22, 1999. Request for an R&D application was submitted August 4, 2000 based on the July 1999 submission. The application for a research and development approval to dispose of PCBs pertaining to an alternate disposal method to destroy PCBs in liquid material using a reagent. The Terada unit is a transportable reactor unit capable of treating three liters of material per batch. A description of the unit is on file in EPA Headquarters.

Business Confidentiality

Pursuant to the regulations at 40 CFR Part 2, Subpart B (41 Federal Register, 36905, September 1, 1976, and 43 Federal Register, 39997, September 8, 1978), Terada or its authorized agent is entitled to assert a business confidentiality claim covering any information you submit under this R&D approval. If such a confidentiality claim is not asserted with any submission, EPA may make this information available to the public without further notice to you. Information subject to a business confidentiality claim may be made available to the public only to the extent set forth in the above cited regulations. Any such claim for confidentiality must conform to the requirements set forth in 40 CFR §2.203(b).

Liability

The issuance of this R&D approval does not release Terada or their authorized agent from any liability for damage to persons or property caused by or resulting from the operation or maintenance of equipment covered by this approval. The conditions of this approval are enforceable under the Toxic Substances Control Act (the Act) and its implementing regulations, 40 CFR Part 761. Any actions by Terada or its authorized agent which violate the terms and conditions of this letter, the Act, or the regulations issued thereunder, may result in administrative, civil, or criminal enforcement by EPA in accordance with Section 16 of the Act, 15 U.S.C. §2615.

FINDINGS:

1. The Terada process is a batch process to treat PCB liquid with a reagent. The reagent and PCBs in oil are pumped into the reactor and maintained at a temperature of approximately 40°C. Terada claims that the reaction is complete in 30 min to 40 min.

2. The Terada Process consists of a reactor tank, feed holding tank, liquid pumps, carbon filter and blower.

3. The Terada process does not emit harmful materials into the air, water, soils, or other surfaces. Liquid and solid wastes will be disposed of by incineration or chemical waste landfill at an EPA-approved disposal site or stored for EPA confirmation.

4. Terada has submitted data which indicate that their Terada process has capability to remove PCBs from PCB liquid material to meet standards set by an EPA-approved incinerator or high efficiency boiler. Furthermore, the Terada unit precludes emissions or discharges to the atmosphere. Terada equipment will be decontaminated, if applicable, filter media will be removed, then packaged in Department of Transportation (DOT) and EPA acceptable containers to store and to transport for disposal. Therefore, EPA finds that an approval for research and development operations of the Terada PCB disposal method is equivalent to operations conducted on a 40 CFR Part 761.70 incinerator or 40 CFR Part 761.60 high efficiency boiler and that the operations of the Terada PCB disposal unit does not pose an unreasonable risk of injury to human health or the environment.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Ms. Maya Rohr, Senior Project Manager
Kleinfelder, Inc.
5015 Shoreham Place
San Diego, California 92122

Mr. Donn Fukuda
Hawaiian Electric Company
Environmental Department
P.O. Box 2750
Honolulu, HI 96840

Dear Ms. Rohr and Mr. Fukuda:

The National Program Chemicals Division (NPCD) of the Office of Pollution Prevention and Toxics (OPPT) of the U.S. Environmental Protection Agency (EPA) grants a joint approval to perform PCB Disposal Research and Development (R&D), to Terada Environmental Laboratory, LTD. (Terada) and to the Hawaiian Electric Company (HECO). Terada is the owner and operator of the Terada mobile PCB dechlorination technology and HECO is the owner of the site of the R&D study operations. This R&D approval applies only to the mobile three kiloliter capacity batch process unit. Enclosed is the approval document for the R&D studies entitled "Approval to Conduct Research and Development Tests to Dispose of Polychlorinated Biphenyls (PCBs), Removal of PCBs at the Hawaiian Electric Company, Honolulu, Hawaii." NPCD approves the disposal of three kiloliters of PCB liquid material for each treatability study and thirty (30) kiloliters of PCB liquid material total under this approval. Effective dates are from August 18, 2000 through November 18, 2000.

NPCD completed its review of the document entitled "PCB Treatment Technology Report" received by EPA on July 22, 1999 and letter dated August 4, 2000 in consideration of the issuance of a PCB R&D Approval pursuant to 40 CFR 761.60(e) (Alternate Method) and the Toxic Substance Control Act (TSCA) to destroy PCBs in liquid materials using the Terada mobile PCB dechlorination technology.

(1) Non-Leaking PCB Articles and PCB Equipment,

(2) Leaking PCB Articles and PCB Equipment provided the items are placed in a non-leaking PCB container that contains sufficient sorbent material to absorb remaining liquid PCBs in the item,

(3) PCB Containers containing non-liquid PCBs such as contaminated soil, rags and debris,

(4) PCB containing liquids PCBs at concentrations of $\geq$ 50 ppm, provided a Spill Prevention, Control and Countermeasure Plan has been prepared for the temporary storage area in accordance with part 112 of this chapter and the liquid PCB waste is in Packaging authorized in the DOT Hazardous Material Regulations at 40 CFR Parts 171 through 180 or stationary bulk storage tanks (including rolling stock such as, but not limited to, tanker trucks, as specified by DOT.

d. Any PCB material not disposed of or meeting the destruction efficiency criteria under this approval shall be disposed of at EPA approved facilities. As an alternative, HECO and Terada may elect to dispose of any remaining PCB liquid following disposal procedures outlined in the pending PCB Disposal Demonstration Approval under the Interim Operations paragraph.

7. Transport of PCBs: Untreated PCB-containing water, solvent or solids may not be transported off-site by the Terada treatment unit except for proper disposal. PCB-contaminated equipment on the Terada PCB disposal units may be transported off-site in accordance with the U.S. Department of Transportation (DOT) requirements of Title 49, CFR Part 172. Such requirements include placarding the mobile facility and labeling all PCBs.

8. Process Malfunction: If the quality control testing as described in the R&D request reveals that the PCBs have not been adequately removed from the soil and/or water after repeated processing (not to exceed three times the theoretical process time or passes necessary for complete removal), disposal activities may be ordered to cease until an adequate explanation is given and corrective measures are taken. A written report detailing the problem and solution shall be filed with the EPA Region IX Office and the National Programs Chemical Division, Office of Pollution Prevention and Toxics, U.S. EPA, Washington, D.C. within five business days.

9. Process Monitoring/Recording: Provisions must be made to assure that the following process elements are suitably monitored and recorded for each batch processed, such that materials harmful to health or the environment are not inadvertently released:

a. quantity and concentration of PCBs and other raw materials processed during the disposal of PCB in contaminated material;

Terada must receive authorization from EPA. Verbal authorizations by EPA must be followed within ten working days by a written notification from Terada describing all modifications. In this context, "application, demonstration plan, and R&D plan" shall be defined as all data and materials which have been received by this Agency from the Terada regarding the Terada PCB disposal method.

Under the above conditions, and given the circumstances under which the research and development tests will be conducted, the National Programs Chemical Division finds, pursuant to 40 CFR 761.60(e), that these tests will not present an unreasonable risk of injury to health or the environment.

Approval:

Approval to conduct research and development into PCB disposal is hereby granted to Terada Environmental Laboratory, LTD of Okinawa, Japan subject to the conditions expressed herein, and consistent with the materials and data included in Terada's submission. This R&D approval is valid when conducted at the Hawaii Electric Company facility in Honolulu, Hawaii.

_____
Date

_____
John W. Melone, Director
National Programs Chemical Division

FOB

KLEINFELDER
An employee owned company

August 4, 2000
Project No.: 51-528201

Mr. John Melone
Director, National Programs Chemical Division
Office of Toxic Substance
United States Environmental Protection Agency
Mail Code 7404
401 M Street S.W.
Washington DC 20460

Subject: PCB Research and Development
Terada Environment Laboratory, LTD.

Dear Mr. Melone:

Terada Environment Laboratory, LTD. (Terada) is in the process of applying for a nationwide permit to treat PCBs by a mobile dechlorination process. Terada has contracted with Kleinfelder, Inc. to assist them in obtaining a TSCA permit. We are currently in the process of providing Mr. Dodahara with the necessary submittals for his review.

In preparation for the Demonstration Test, Terada requests approval to conduct research and development at the Hawaiian Electric Company (HECO) in Honolulu, Hawaii. The demonstration test will be conducted at the HECO Ewa Nui Substation. HECO currently has some PCB oil stored which Terada would like to use for the R&D and demonstration test. The one year storage limit for the oil will expire soon, therefore an extension to the storage limit is necessary to conduct the R&D and demonstration test. In accordance with 40 CFR 761.60, and on behalf of Terada, we request a three month R&D approval (Terada) and a one year storage extension (HECO) in order to allow for the R& D activities and Demonstration Test.

The following provides a summary of the PCB oil currently on site at HECO that require an extension:

- 1 - 55 gallon drum (#27367) – transformer oil (534 ppm PCB)
- 2 gallons capacitor oil – Drum # 57

HECO is concerned about the expiration of their storage limit and is therefore considering disposing of the PCB oil within two weeks. If this is done, there may not be sufficient PCB oil for the R&D activities and demonstration test. Therefore, your timely response to this matter would be greatly appreciated. If you have any questions or require additional information, please contact me at (858) 320-2238.

KLEINFELDER 5015 Shoreham Place, San Diego, CA 92122 (858) 320-2000 (858) 320-2001 fax

Thank you for your assistance in this matter.

Sincerely,

KLEINFELDER, Inc.

Maya Rohr
Senior Project Manager

cc Don Fukuda – HECO
Shunichi Terada – Terada
Hiroshi Dodahara - EPA

KLEINFELDER 5015 Shoreham Place, San Diego, CA 92122 (619) 320-2000 (619) 320-2001 fax

August 4, 2000
Project No.: 51-528201

Mr. John Melone
Director, National Programs Chemical Division
Office of Toxic Substance
United States Environmental Protection Agency
Mail Code 7404
401 M Street S.W.
Washington DC 20460

Subject: PCB Research and Development
Terada Environment Laboratory, LTD.

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Terada Environment Laboratory, LTD. (Terada) is in the process of applying for a nationwide permit to treat PCBs by a mobile dechlorination process. Terada has contracted with Kleinfelder, Inc. to assist them in obtaining a TSCA permit. We are currently in the process of providing Mr. Dodahara with the necessary submittals for his review.

In preparation for the Demonstration Test, Terada requests approval to conduct research and development at the Hawaiian Electric Company (HECO) in Honolulu, Hawaii. The demonstration test will be conducted at the HECO Ewa Nui Substation. HECO currently has some PCB oil stored which Terada would like to use for the R&D and demonstration test. The one year storage limit for the oil will expire soon, therefore an extension to the storage limit is necessary to conduct the R&D and demonstration test. In accordance with 40 CFR 761.60, and on behalf of Terada, we request a three month R&D approval (Terada) and a one year storage extension (HECO) in order to allow for the R& D activities and Demonstration Test.

The following provides a summary of the PCB oil currently on site at HECO that require an extension:

- 1 - 55 gallon drum (#27367) – transformer oil (534 ppm PCB)
- 2 gallons capacitor oil – Drum # 57

HECO is concerned about the expiration of their storage limit and is therefore considering disposing of the PCB oil within two weeks. If this is done, there may not be sufficient PCB oil for the R&D activities and demonstration test. Therefore, your timely response to this matter would be greatly appreciated. If you have any questions or require additional information, please contact me at (858) 320-2238.

Thank you for your assistance in this matter.

Sincerely,

KLEINFELDER, Inc.

Maya Rohr
Senior Project Manager

cc Don Fukuda – HECO
Shunichi Terada – Terada
Hiroshi Dodahara - EPA